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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/336,116	06/18/1999	CHUNG LAM	82225.P1423D	7276

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EXAMINER

AHMED, SHAMIM

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/336,116

Applicant(s)

LAM, CHUNG

Examiner

Shamim Ahmed

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 9-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claims 9 and 13, the amended portion " an IC package, **permanently** installed onto a printed circuit board" is not supported by the specification. The specification only discloses that IC package (12) is attached or mounted to a printed circuit board (14) (see, lines 3-20, page 7).

So, the specification only support for surface-mount attachment of the IC package with a printed circuit but not for the permanent attachment of the IC package to the printed circuit board.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9,13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wensink (5,443,675) in view of Zollo et al (5,410,181).

Wensink discloses a decapsulating process for an integrated circuits (IC) to open plastic mold package, wherein the integrated circuit is mounted to a connector board, which establishes the electrical connection with the integrated circuit to be tested, wherein the attachment of the IC package to the connector board is a surface-mount attachment (figure 1).

So, the connector board is nothing but a printed circuit board.

Wensink also discloses an etch head or injection head is provided for supplying decapsulating fluid that sprayed onto the integrated circuit (col.1, lines 8-25, col.4, lines 7-29).

Wensink further discloses that the etch head is removably attached with the integrated circuit or the fixture having IC attached with the connector or circuit board (col.4, lines 56-64).

So, it would have been obvious that the IC is clamped with the etch head or the injection head.

Wensink fails to teach that the IC package is permanently attached with the connector board or the printed circuit board.

However, in a method of mounting integrated circuit (IC) packages, Zollo et al teaches that typically integrated circuit (IC) is mounted on a printed circuit board for

making interconnection between the IC and the circuitry on the printed circuit board (col.1, lines 12-24).

Therefore, it would have been obvious to one skilled in the art at the time of claimed invention to combine Zollo et al's teaching into Wensink's process for making a permanent connection between the IC and the circuitry on the printed circuit board as taught by Zollo et al.

As to claim 13, Wensink teaches that the etch head or the injection head having a nozzle disposed above the integrated circuit package that is in fluid communication with an inlet port and a return or suction port (see figure 1).

As to claim 16, Wensink introducing a top plate (18) with a cavity (20), wherein the plate is etch resistant.

So, the plate around the cavity works as a sealant for preventing the etchant or the decapsulating fluid to enter the circuit board (figure 1).

6. Claims 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wensink (5,443,675) in view of Zollo et al (5,410,181) as applied to claims 9,13 and 16 above, and further in view of Winsemius et al (5,792,305).

Modified Wensink discussed above in the paragraph 5, but fails to discuss a step of controlling the flow of the decapsulating fluid through a pair of tubes as the context of claims 11 and 14.

However, Winsemius et al disclose a decapsulating system having a pair of tubes including corresponding valves to control the flow of the decapsulating fluid,

wherein the valve is intermittently activated to pulse the fluid flow to reduce the consumption of the decapsulating fluid (col.6, lines 31-40, col.7, lines 25-29 and also figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of claimed invention to introduce a pair of tubes with corresponding valves to control the flow of the decapsulating fluid as taught by Winsemius et al.

By doing so, one could reduce the consumption of the encapsulating fluid as taught by Winsemius et al.

7. Claims 10,12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wensink (5,443,675) in view of Zollo et al (5,410,181) as applied to claims 9, 3 and 16 above, and further in view of Buck et al (5,489,854).

Modified Wensink discussed above in the paragraph 5 but fails to teach the introduction of a stub that is plugged into a tray to support the circuit board.

However, Buck et al disclose spring biased contacts that can be used to align and hold a printed circuit board, wherein an IC chip or a device under test (DUT) is mounted on the board (col.1, lines 9-12, col.2, lines 6-17, figure 5).

Therefore, it would have been obvious to one skill in the art at the time of claimed invention to employ Buck et al's teaching into Wensink's method for supporting the circuit board by fixedly positioning the circuit board as taught by Buck et al.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Weaver et al (6,117,352) is not a prior art but disclose a process for decapsulating an integrated circuit package and Ghaemmaghami et al also disclose a process for decapsulation of electronic device; Buchanan (5,502,397) and Kister (5,422,574) disclose that typically IC is directly mounted on a printed circuit board for forming electrical connection.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (703) 305-1929. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

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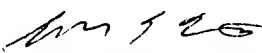
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on (703) 308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Shamim Ahmed  
Examiner  
Art Unit 1765

SA  
February 19, 2003

  
BENJAMIN L. UTECH  
SUPERVISORY PATENT EXAMINER  
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